PATENT SPECIFICATION (11) 1 566 786

1 566 786

(21) Application No. 38166/77 (22) Filed 13 Sep 1977

(31) Convention Application No. 807928

(32) Filed 21 Jun 1977 in

(33) United States of America (US)

(44) Complete Specification Published 8 May 1980

(51) INT.CL.[3] A63H 3/46 3/02 3/04

(52) Index at Acceptance A6S 1F1

(19)

(54) DOLL

(71) We, MEGO CORP, 41 Madison Avenue, New York, New York 10010, United States of America, a corporation organised and existing under the laws of the State of New York, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be perfonned, to be particularly described in and by the following statement.

The invention relates to dolls.

More particularly, the invention relates to dolls including at least two portions in which one portion is posable relative to the other, i.e. in which one portion can be manipulated into various positions relative to the other portion and tends to remain in the position to which it has been moved.

Such bendable dolls are extremely attractive to children, since the portions of the doll, e.g. the limbs and/or the head and/or the torso, may be bent by the child at play into a variety of dispositions and positions, so as to simulate, for example, a sitting doll, a standing doll, a walking doll, a doll with arms outstretched, etc. In some prior art bendable dolls, a wire frame is used to support the limbs in a desired position. In this type of doll, due to repeated bending of the doll limbs by a child at play, the wire at the joints or in the frame eventually breaks, thus eliminating support for the limbs and ruining the doll, since subsequent playing with the doll soon causes the ends of the wire to tear away at the softer material of the doll.

A known bendable doll is shown and described in U.S. Patent No. 3,955,309. Other known dolls are disclosed in U.S. Patent Nos. 3,866,350; 3,624,691 and 2,209,791.

It is an object of the present invention to provide an improved doll.

This invention consists in a doll including first and second portions and a joint between the portions which enables the second portion to be posable relative to the first portion, the joint comprising a first rigid member mounted in said first portion of the doll so that a surface of said first rigid member faces outwards from said first portion of the doll, said surface being non-planar, a second rigid member mounted in said second portion of the doll so that a surface of said second rigid member faces outwards from said second portion of the doll and mates with said surface of said first rigid member in slidable engagement, and attachment means extending between said first rigid member and said second rigid member, at least a portion of said attachment means being elastomeric and resilient, and the resilient portion of said attachment means being under tension so that the mating surfaces of said first and second rigid members are urged into contact while being in slidable engagement.

The outwardly facing surface of the first rigid member is preferably concave, although it may be convex, hemicylindrical, or of any other suitable configuration which will permit angular displacement. In one embodiment, the first rigid member is a chest piece mounted on an armature or framework in a torso forming the first portion of the doll, and the surface of the chest piece is an upper dished concave generally horizontal seating panel at the top of the chest piece. In this embodiment the second rigid member is a dished downwardly convex generally horizontal washer at the bottom of the second portion of the doll, which forms the head of the doll.

The attachment means of the joint may be a common type of rubber band, suitably mounted on both the first and second rigid

members. In general however, the elastomeric and resilient portion of the attachment means may be of any suitable configuration and may be composed of any type of elastic substance such as natural rubber, a synthetic rubber such as neoprene or styrene-butadine copolymer, or a polyvinyl elastomer compound. The attachment means preferably extends centrally through juxtaposed central openings in the first rigid member and the second rigid member, although in suitable instances a pair of opposed laterally attached elastomeric and resilient members may alternatively be provided, in suitable lateral recesses. Other configurations and dispositions of attachment means which urge the mating surfaces of the first and second rigid members into contact while permitting slidable engagement, i.e. angular tilting of the second member to a variety of angular dispositions relative to the first portion of the doll, will occur to those skilled in the art.

The central opening in the first rigid member may be smaller than the central opening in the second rigid member. In this case, in a preferred embodiment, a panel is provided in the second portion of the doll. This panel is disposed between the central opening in the second rigid member and the interior of the second stuffed portion and is mounted on the second rigid member. Thus, the panel extends across the central opening in the second rigid member, with the attachment means such as a rubber band being attached to the panel, typically by providing a central opening in the panel, with the attachment means extending through this central opening, together with a lock pin which extends laterally through the attachment means, on the side of the panel opposite to the central opening in the second rigid member. The lock pin is of greater dimension than the central opening in the panel, e.g. the length of the lock pin is greater than the diameter of a circular central opening, so that the attachment means is restrained under tension for all angular dispositions of the posable second portion of the doll.

Alternatively, the central opening in the first rigid member may be larger than the central opening in the second rigid member, in which case the attachment means is attached to the second rigid member at the central opening in the second rigid member.

The invention may be applied with particular advantage to a stuffed doll, in which the first and second portions each comprise a flexible outer skin filled with stuffing.

Stuffed dolls provide a great deal of happiness and enjoyment for children, especially for small children, since a stuffed doll simulates, to a greater or lesser extent, the feel and resillency of an actual living person or character. Thus, the simulation of playing with a living person or character rather than with an inanimate object is attained to a certain extent, and greater enjoyment is provided to the child. Such dolls are readily produced at low cost, and these dolls are typically provided with a stuffing of foamed rubber or plastic, cotton, excelsior, sawdust, urethane, or any other soft material which provides a consistency and resilience. The covering of the stuffed doll is typically a layer of fabric skin in the desired shape, which may be composed of cloth such as cotton, wool, rayon, polyester, or the like, or the outer layer may be composed of thin plastic film such as polyvinyl chloride, polyethylene, polypropylene, or the like. Other materials of construction for the stuffing and skin may be utilized in suitable instances.

In any case, the skin or covering of the doll is usually either dyed or otherwise coloured, or provided with suitable appurtenances such as pockets, to simulate the appearance of clothing. The head of the doll will usually be provided with simulated hair as well as appurtenances resembling eyes, nose mouth and ears, so as to complete the simulation of a human being.

In the accompanying drawings in which are shown several of the various possible embodiments of the invention:

Figure 1 is an elevation view of the doll showing the axes of two angular orientations of the posable head;

Figure 2 shows the internals of the doll of Figure 1;

Figure 3 is a sectional elevation view taken substantially along the line 3 3 of Figure 2.

Figure 4 is a sectional elevation view taken substantially along the line 4 4 of Figure 3;

Figure 5 is a sectional elevation view similar to Figure 4 but showing an alternative configuration of neck joint;

Figure 6 is an exploded view of a joint between a stuffed limb (arm) and a terminal member (hand) in accordance with the present invention;

Figure 7 shows the assembled joint of Figure 6; and

Figure 8 is a sectional bottom plan view taken substantially along the line 8–8 of Figure 7.

Referring now to Figures 1 and 2, a stuffed bendable doll 10 in the form of a simulated clown is provided with a stuffed body or torso 12 and a posable stuffed head 14 which may be tilted to a variety of angular dispositions relative to the torso 12. The axes 16 and 18 indicate the outer limits of angular tilting of the head 14. The full outlines of eyes 20, nose 22, mouth 24 and washer 26, which later element is attached to the base or neck of the head 14, indicate the disposition of the head 14 when tilted to alignment of its central vertical axis with axis 16, while the phantom outlines of elements 20, 22, 24 and 26 indicate the disposition of the head 14 when tilted to alignment of its central vertical axis with axis 18. The head 14 is also provided with simulated hair tufts 28 and eyebrows 30 to further complete the resemblance

of the doll to a clown, which is a character to which all children readily relate. In addition, vertically aligned pom-pons 32 are provided on the front of the torso 12 to further enhance the simulation of the costume of a clown. The doll 10 is shown with outstretched stuffed arms 34 extending laterally from the torso 12, as if the doll is offering to embrace a child. The arms 34 terminate with terminal members consisting of hands 36 which are attached to the arms 34 by joints 38. The outward appearance of the doll is completed by the provision of stuffed legs 40 which depend from the torso 12 and which terminate with terminal members consisting of feet 42. The feet 42 are attached to the legs 40 by additional joints 38. The stuffing is retained within the various members 14, 34 and 40 by means of terminal tie-off strings 44, as will appear infra.

With regard to the internal structure of the doll, the washer 26 cooperates with an upper dished concave generally horizontal seating panel 46 at the top of the torso 12, as best shown in Figures 2, 3 and 4. The panel 46 is mounted on and forms the upper portion of a chest piece 48 mounted on an armature or framework consisting of two inclined generally vertical members 50 and 52 which depend from adjacent the center of a horizontal member 54. The members 50, 52 and 54, as shown in Figure 3 et seq., generally consist of a linear strengthening member 56 consisting of wire or the like, within an annular sleeve 58 composed of plastic or the like.

Referring now to Figures 3 and 4, details of one embodiment of the improved joint between the head 14 and the torso 12, which permits the head 14 to be posable relative to the torso 12, are shown. At the onset, both the head 14 and the torso 12 are stuffed with suitable stuffing 60 which may consist of any one or a mixture of the stuffing materials mentioned supra. The head 14 is defined by an outer skin 62 typically composed of cloth or polyester fabric, or of any of the other materials mentioned supra. Similarly, the torso 12 is defined by an outer skin 64. The outer skin coverings in each case are restrained by a terminal tie-off string 44 which holds the edges of the respective skin in a peripheral recess in either member 26 or 46.

The embodiment of the invention shown in Figures 3 and 4 further includes a panel 66 which is disposed between a central opening 68 in washer 26 and the interior stuffing 60 in head 14. The panel 66 is essentially mounted on washer 26, and the panel 66 extends across the central opening 68 in washer 26. The central opening 68 in this embodiment of the invention is larger than a central opening 70 in the seating panel 46. In this embodiment of the invention, attachment means generally designated as 72 and consisting essentially of a rubber band 74 secured at each end to a member associated either with head 14 or torso 12 is provided. Thus, the lower end of rubber band 74 is provided with an enlargement 76 below opening 70 so that the lower end of rubber band 74 is restrained by and attached to panel 46, and the upper end of rubber band 74 extends centrally through opening 68 and a hole in the center of panel 66, and is secured above panel 66 by a lock pin 78 which extends laterally through the attachment rubber band 74 above panel 66, so that the attachment means 72, which essentially entails rubber band 74 together with terminal attachment means at the ends of rubber band 74, serves to attach members 46 and 66 together by extending between these members. It will be appreciated that rubber band 74 is under tension so that the mating surfaces of washer 26 and panel 46 are urged into contact while being in slidable engagement. Thus, Figure 4 shows how the head 14 has been tilted so that its central axis is aligned with axis 16, and the appropriate disposition of the joint members, e.g. washer 26 is laterally displaced. It is to be noted that in this embodiment of the invention, the central opening 70 is smaller than the central opening 68, so as to accommodate for lateral displacement of washer 26.

Figure 5 shows an alternative embodiment of the invention, in which the upper end 80 of a rubber band 82 is directly attached to the center of the spherical washer 26 via a pin 84, while the lower end 86 of the rubber band 82 is connected via a pin 88 to the chest piece 48, so that members 26 and 48 are connected by rubber band 82 and held together, with a slidable engagement between members 26 and 46. In this case, the central opening 90 in seating panel 46 is larger than the central opening 92 in washer 26, so that the central opening 90 accommodates for lateral movement of the upper portion of the rubber band 82 as it pivots about pin 88 during angular tilting of the posable head 14.

Referring now to Figures 6, 7 and 8, details of the joint 38 between a stuffed limb and a terminal member are shown. The joint 38 provides an integral connection between a limb of the doll, in this case the arm 34, and a terminal member, in this case the hand 36. The arm 34 is a stuffed member having stuffing 94 and an outer skin 96. The central framework or armature 54, consisting of the wire 56, which is a linear strengthening member, and the annular plastic sleeve 58, which may be of polyvinyl chloride, polyethylene, polypropylene, or other suitable bendable material, extends longitudinally through the arm 34. The wire 56, as best seen in Figure 8 terminates with a terminal loop 98. It will be understood that the loop could be replaced by any suitable terminal enlargement, such as a spherical or disc-shaped member, at the end of wire 56, although a loop is the preferred configuration. The loop 98 is disposed within

a connecting plate 100, so that the connecting plate 100 is mounted on the strengthening member 56 within the outer end of the stuffed limb 34. The connecting plate 100 has an inner portion 102 which is in the nature of a flange and in any case is of greater lateral dimension than the balance 104 of the connecting plate 100. Section 102 is preferably bevelled at 106 and likewise section 104 is preferably bevelled at 108.

The hand 36 is preferably hollow and is generally composed of plastic or the like. An annular recess 110 is provided around the outer periphery of the hand 36 adjacent its inner end. The recess 110 accommodates the tie-off string 44, as best shown in Figure 8, so that the terminal edge 112 of the skin 96 is secured to hand 36 and egress of stuffing 94 from the joint 38 is effectively prevented.

The inner end of the hand 36 also includes, besides annular recess 110, a central opening 114 into which the connecting plate section 104 extends and fits snugly, as well as a terminal flange 116, so that the inner end of the hand 36 mates with and is mounted on the connecting plate 100. Adhesive means such as glue, epoxy resin, urea-formaldehyde resins or the like, are provided at the interfaces 118 between the lateral surfaces of the inner end of the hand 36 and the connecting plate 100, so that these lateral surfaces are adhesively adhered together. The result is a strong rigid joint 38 between the hand 36 and the arm 34, which joint 38 is easily assembled and which serves not only to mount the hand 36 on the framework or armature 54 but also to restrain the stuffing 94 from passing out of the skin 96 at the joint 38, even when the doll is roughly handled by a child.

The linear strengthening member 56 may be a wire of metal such as flexible copper or copper alloy, steel, aluminium, magnesium or any other suitable ductile metal or alloy.

The described stuffed bendable doll provides several salient advantages. At the onset, the doll head or other doll portion is fully posable and may be oriented in any suitable disposition to suit the fancy of a child. Thus, a child derives a great deal of pleasure and enjoyment from playing with the doll. Another advantage is that the described joints are rugged and reliable in service and are not easily broken by an active child. A further advantage is that the joints do not require complex and costly parts, and are readily fabricated and assembled at low cost using unskilled labour. Thus, the low production cost results in a posable stuffed bendable doll which can be mass produced and marketed at low cost, so that the doll may be purchased even by parents of limited means to provide enjoyment to their children, who may be deprived of many of the more expensive toys, games and dolls now on the market due to the basic economics of family life. The described joints, especially that between first and second stuffed portions of the doll such as the head and torso, effectively simulate real life joints in the doll, and thus a more life-like stuffed bendable doll is provided. The joints are more life-like and resilient, and are less susceptible to breakage or malfunction than the joints of prior art dolls. Thus, the described stuffed bendable doll will not deteriorate through prolonged use by a child, e.g. when the child manipulates the moveable and posable head of the doll. The use in the described embodiments of a posable doll's head which is stuffed rather than being composed of a plastic such as polyvinyl chloride, is advantageous in further enhancing the simulation of a real-life actual person or character.

WHAT WE CLAIM IS:

1. A doll including first and second portions and a joint between the portions which enables the second portion to be posable relative to the first portion, the joint comprising a first rigid member mounted in said first portion of the doll so that a surface of said first rigid member faces outwards from said first portion of the doll, said surface being non-planar, a second rigid member mounted in said second portion of the doll so that a surface of said second portion of the doll and mates with said surface of said first rigid member in slidable engagement, and attachment means extending between said first rigid member and said second rigid member, at least a portion of said attachment means being elastomeric and resilient, and the resilient portion of said attachment means being under tension so that the mating surfaces of said first and second rigid members are urged into contact while being in slidable engagement

2. A doll as claimed in claim 1 in which the first portion is the torso of the doll and the second portion is the head of the doll.

3. A doll as claimed in claim 1 or claim 2 in which the elastromeric and resilient portion of the attachment means is composed of an elastic substance selected from the group consisting of natural rubber, synthetic rubber, and a polyvinyl elastomer compound.

4. A doll as claimed in claim 3 in which the synthetic rubber is neoprene.

5. A doll as claimed in claim 3 in which the synthetic rubber is a styrene-butadine copolymer.

6. A doll as claimed in any preceding claim in which the first rigid member is a chest piece mounted in an armature in the torso of the doll, and the surface of said chest piece is an upper dished concave generally horizontal seating panel at the top of said chest piece.

7. A doll as claimed in claim 6 in which the second rigid member is a dished downwardly convex generally horizontal washer at the bottom of the second portion of the doll.

8. A doll as claimed in any preceding claim in which the attachment means extends centrally through juxtaposed central openings in the first rigid member and the second rigid member.

9. A doll as claimed in claim 8 in which the central opening in the first rigid member is smaller than the central opening in the second rigid member.

10. A doll as claimed in claim 9 in which a panel is provided in the second portion of the doll, said panel being disposed between the central opening in the second rigid member and the interior of the second stuffed portion and being mounted on the second rigid member, said panel extending across the central opening in the second rigid member, the attachment means being attached to said panel.

11. A doll as claimed in claim 10 in which the attachment means is attached to the panel by providing a central opening in the panel, the attachment means extending through the central opening in the panel, together with a lock pin, said lock pin extending laterally through the attachment means on the side of the panel opposite to the central opening in the second rigid member and being of greater dimension than the central opening in the panel.

12. A doll as claimed in claim 8 in which the central opening in the first rigid member is larger than the central opening in the second rigid member, and the attachment means is attached to the second rigid member at the central opening in the second rigid member.

13. A doll as claimed in any preceding claim in which the attachment means includes a rubber band.

14. A doll as claimed in any preceding claim, in which the first and second portions each comprise a flexibile outer skin filled with stuffing.

15. A doll constructed, arranged and adapted to operate substantially as described with reference to, and as shown in, Figures 1 to 4 and 6 to 8 or Figures 1 to 4 and 6 to 8 as modified by Figure 5, of the accompanying drawings.

MATHYS & SQUIRE
Chartered Patent Agents
10 Fleet Street
London EC4Y 1AY

Agents for the Applicants

Printed for Her Majesty's Stationery Office by MULTIPLEX techniques ltd., St. Mary Cray, Kent. 1980. Published at the Patent Office, 25 Southampton Buildings, London WC2 1AY, from which copies may be obtained.

1566786 COMPLETE SPECIFICATION

3 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 1

FIG. 2

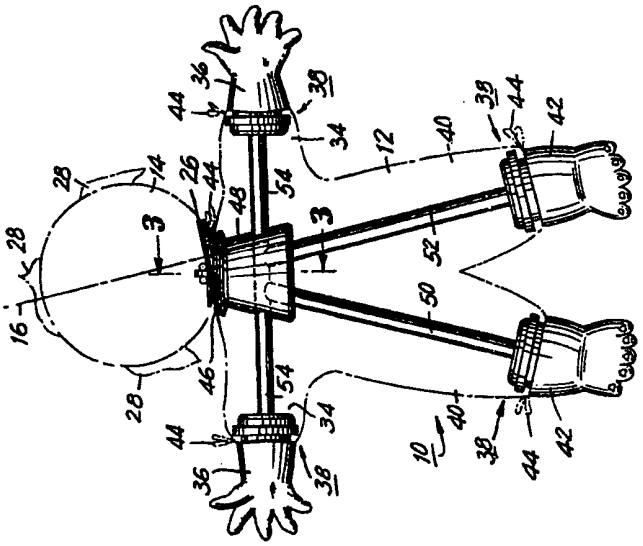
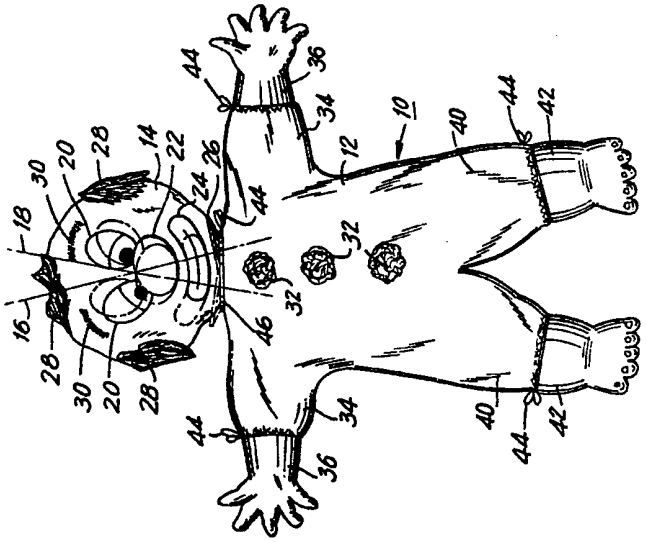


FIG. 1



1566786 COMPLETE SPECIFICATION
3 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheet 2

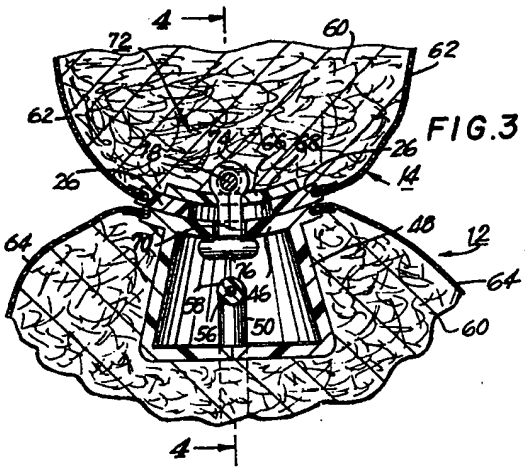


FIG.3

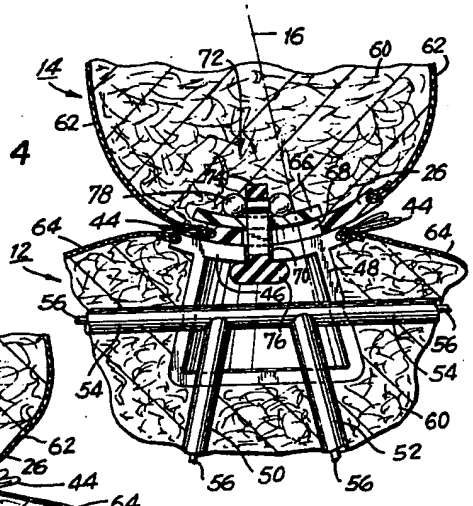


FIG. 4

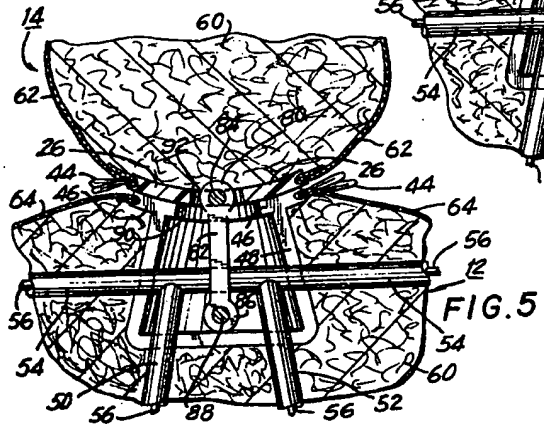


FIG.5

1566786 COMPLETE SPECIFICATION
3 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheet 3

FIG.6

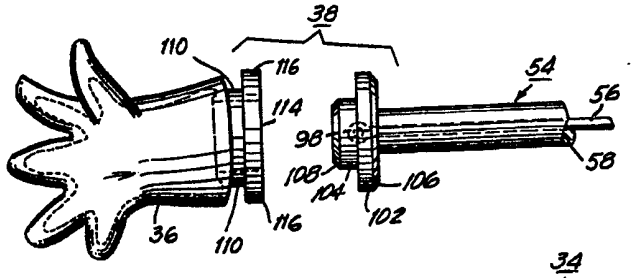
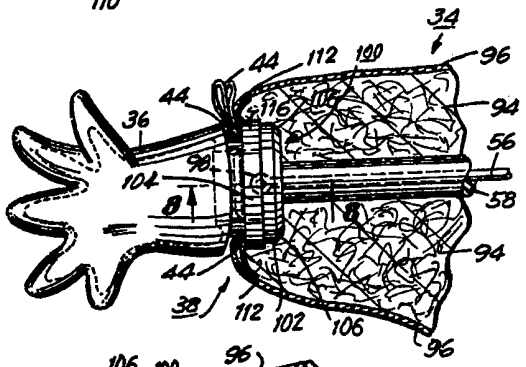


FIG. 7



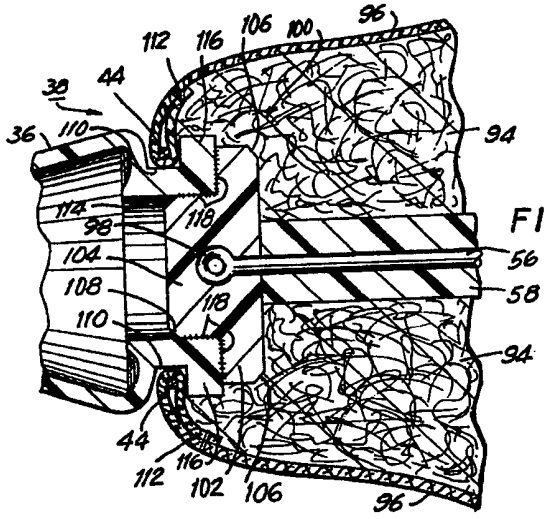


FIG. 8